

Amended specification

where Ar is a trivalent aromatic radical of 6-20 carbon atoms, Ar' is a bridged diaromatic radical having the formula Ar -Y- Ar and Y is O, CO, S, SO₂, -(CH₂)_y, or -C(R'')₂- and y is from 0 to 6, and R and R' are the same or different alkyl, aryl, alkylene aryl, arylene alkyl, alkylene alkoxy, alkylene aryloxy, arylene alkoxy and arylene aryloxy aryl, radicals having from 6-20 carbon atoms, X is -R, -COR, -COOR, -SO₂R, -PORR' and R'' is methyl.

DETAILED DESCRIPTION OF THE INVENTION

The synthesis of diepoxides described in the present invention requires the introduction of the allylic moiety to the aromatic ring that is converted in a subsequent reaction to the 2,3-epoxypropyl moiety. The allylation of phenols is well documented in the literature utilizing allyl aryl ethers, that on heating, rearrange to allyl phenols. The reaction is called the Claisen Rearrangement (Advanced Organic Chemistry, 3rd Edition, by J. March, John Wiley & Sons 1985). Allyl aryl ethers are readily prepared from the phenate salt and allyl derivatives.

$\text{C}_6\text{H}_5\text{OH} + \text{CH}_2=\text{CHCH}_2\text{X} + \text{base} \rightarrow \text{C}_6\text{H}_5\text{OCH}_2\text{CH}=\text{CH}_2$ where X= chloride, bromide, acetate, tosylate etc.

$\text{C}_6\text{H}_5\text{OCH}_2\text{CH}=\text{CH}_2 + \text{heat} \rightarrow \text{CH}_2=\text{CHCH}_2-\text{C}_6\text{H}_5\text{OH}$

The preparation of the novel diepoxides described in the present invention utilizes the Claisen rearrangement and the allyl ether synthesis in one of two ways depending on the structure of the aromatic substrate. If the starting aromatic is a monophenol, the allylation- rearrangement is carried out a second time to obtain the diallyl product as illustrated below for phenol.

Phenol + allyl chloride + base \rightarrow allyl phenyl ether

Allylphenyl ether + heat + solvent \rightarrow 2-allyl phenol

2-allyl phenol + allyl chloride \rightarrow 2-allyl phenyl ether